

CLAIMS

- 1 An optical pick-up comprising:
 - a lens holder to which an object lens is attached, and to be moved in a focus direction in parallel to an optical axis of the object lens and in a tracking direction perpendicular to the optical axis direction of the object lens;
 - a supporting block for movably supporting the lens holder in the focus direction and in the tracking direction;
 - a supporting member including a pair of leg pieces for supporting and allowing the supporting block to be tilted by fixing front end sides of the leg pieces onto a base, the leg pieces being arranged such that spacing between the leg pieces increases as a distance from a side at which the supporting block is supported increases toward the front end side; and
 - a drive mechanism for applying a drive force to the supporting block so as to tilt the supporting block by changing a shape of the pair of leg pieces, whereby tilting the lens holder which is supported by the supporting block.
- 2 The optical pick-up as set forth in claim 1,
 - wherein the supporting member is adapted so that the leg pieces are caused undergo elastic deformation in a direction to tilt the supporting block with the axis along the tangential direction of recording tracks formed at a disc-shaped recording medium being as fulcrum.
- 3 The optical pick-up as set forth in claim 1,

wherein the drive mechanism is composed of a voice coil and a rod-shaped magnet, the magnet being attached to the supporting block, the voice coil being attached to the base in the state opposite to the magnet.

4 The optical pick-up as set forth in claim 1,

wherein the drive mechanism is composed of a voice coil and a rod-shaped magnet, the voice coil being attached to the supporting block, the magnet being attached to the base in the state opposite to the voice coil.

5 The optical pick-up as set forth in claim 1,

wherein the pair of leg pieces are arranged so as to take linear symmetry with respect to virtual line passing through the focus direction in parallel to the optical axis of the object lens.

6 The optical pick-up as set forth in claim 1,

wherein the pair of leg pieces are arranged so as to take linear symmetry with respect to virtual line passing through the focus direction at center in a length direction of the supporting block extending in the tracking direction perpendicular to the optical axis direction of the object lens.

7 The optical pick-up as set forth in claim 1,

wherein the supporting member is adapted so that the leg pieces are connected to both ends of a supporting block attachment piece fixed to the supporting block through an elastic displacement portion and attachment pieces are provided at the front end portions of the respective leg pieces

through the elastic displacement portion, the supporting member being attached on the base through the attachment pieces, the leg pieces being caused to undergo displacement with the respective elastic displacement portions being as displacement point.

8 The optical pick-up as set forth in claim 1,

wherein when a drive force for tilting the supporting block is applied from the drive mechanism, the pair of leg pieces oscillate as four-linked mechanism constituted by the supporting block, the base and the pair of leg pieces.

9 The optical pick-up as set forth in claim 1,

wherein two object lenses are supported at the lens holder in the state where they are arranged in the tracking direction and in the tangential direction perpendicular thereto.

10 An optical disc apparatus including drive means for rotationally driving an optical disc in the state where the optical disc is held, and an optical pick-up for irradiating light beams serving to perform recording or reproduction of information signals on and from the optical disc rotationally driven by the drive means, and for detecting reflected light beams reflected from the optical disc,

the optical pick-up comprising:

a lens holder portion to which an object lens is attached, and to be

moved in a focus direction in parallel to an optical axis of the object lens and in a tracking direction perpendicular to the optical axis direction of the object lens;

a supporting block for movably supporting the lens holder in the focus direction and in the tracking direction;

a supporting member including a pair of leg pieces for supporting and allowing the supporting block to be tilted by fixing front end sides of the leg pieces onto a base, the leg pieces being arranged such that spacing between the leg pieces increases as a distance from a side at which the supporting block is supported increases toward the front end side; and

a drive mechanism for applying a drive force to the supporting block so as to tilt the supporting block by changing a shape of the pair of leg pieces, whereby tilting the lens holder which is supported by the supporting block.

11 The optical disc apparatus as set forth in claim 10.

wherein the supporting member is adapted so that the leg pieces are caused to undergo elastic deformation in a direction to tilt the supporting block with the axis along the tangential direction of recording tracks formed at a disc-shaped recording medium being as fulcrum.

12 The optical disc apparatus as set forth in claim 10,

wherein the drive mechanism is composed of a voice coil and a rod-shaped magnet, the magnet being attached to the supporting block, the

voice coil being attached to the base in the state opposite to the magnet.

13 The optical disc apparatus as set forth in claim 11,

wherein the drive mechanism is composed of a voice coil and a rod-shaped magnet, the voice coil being attached to the supporting block, the magnet being attached to the base in the state opposite to the voice coil.

14 The optical disc apparatus as set forth in claim 10,

wherein the pair of leg pieces are arranged so as to take linear symmetry with respect to virtual line passing through the focus direction in parallel to the optical axis of the object lens.

15 The optical disc apparatus as set forth in claim 10,

wherein the pair of leg pieces are arranged so as to take linear symmetry with respect to virtual line passing through the focus direction at the center in a length direction of the supporting block extending in the tracking direction perpendicular to the optical axis direction of the object lens.

16 The optical disc apparatus as set forth in claim 10,

wherein the supporting member is adapted so that the leg pieces are connected to both ends of a supporting block attachment piece fixed to the supporting block through an elastic displacement portion and attachment pieces are provided at front end portions of the respective leg pieces through the elastic displacement portion, the supporting member being attached on the base through the attachment pieces, the leg pieces being caused to undergo

displacement with the respective elastic displacement portions being as displacement point.

17 The optical disc apparatus as set forth in claim 10,

wherein when a drive force for tilting the supporting block is applied from the drive mechanism, the pair of leg pieces oscillate as four-linked mechanism constituted by the supporting block, the base and the pair of leg pieces.